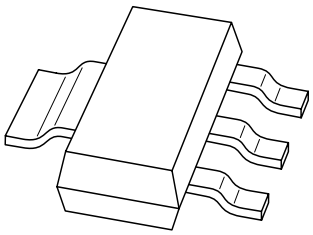
查询PBSS5540Z供应商

DATA SHEET



PBSS5540Z
PNP medium power transistor

Preliminary specification

1999 Aug 04

Philips
Semiconductors

PHILIPS

PNP medium power transistor PBSS5540Z

FEATURES

- High current (max. 10 A)
- Low voltage (max. 40 V)
- Low V_{CEsat}.

APPLICATIONS

- Heavy duty battery powered equipment (Automotive, Telecom and Audio/Video) such as motor and lamp drivers
- V_{CEsat} critical applications such as the latest low supply voltage IC applications
- All battery driven equipment to save battery power.

DESCRIPTION

PNP low V_{CEsat} transistor in a SOT223 plastic package.
NPN complement: PBSS4540Z.

MARKING CODE

TYPE NUMBER	MARKING CODE
PBSS5540Z	PB5540

PINNING

PIN	DESCRIPTION
1	base
2	collector
3	emitter
4	collector

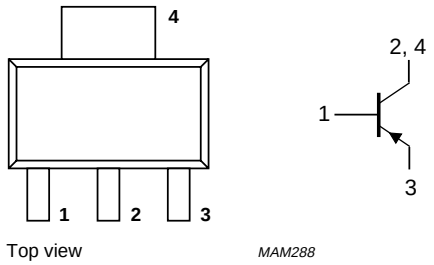


Fig.1 Simplified outline (SOT223) and symbol.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CBO}	collector-base voltage	open emitter	–	–40	V
V_{CEO}	collector-emitter voltage	open base	–	–40	V
V_{EBO}	emitter-base voltage	open collector	–	–6	V
I_C	collector current (DC)		–	–5	A
I_{CM}	peak collector current		–	–10	A
I_{BM}	peak base current		–	–2	A
P_{tot}	total power dissipation	$T_{amb} \leq 25$ °C; note 1	–	1.35	W
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Note

1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm^2. For other mounting conditions, see *"Thermal considerations for SOT223 in the General Part of associated Handbook".*

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j\text{-}a}$	thermal resistance from junction to ambient	note 1	92	K/W

Note

1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for collector 1 cm^2. For other mounting conditions, see *"Thermal considerations for SOT223 in the General Part of associated Handbook".*

CHARACTERISTICS

T_j = 25 °C unless otherwise specified.

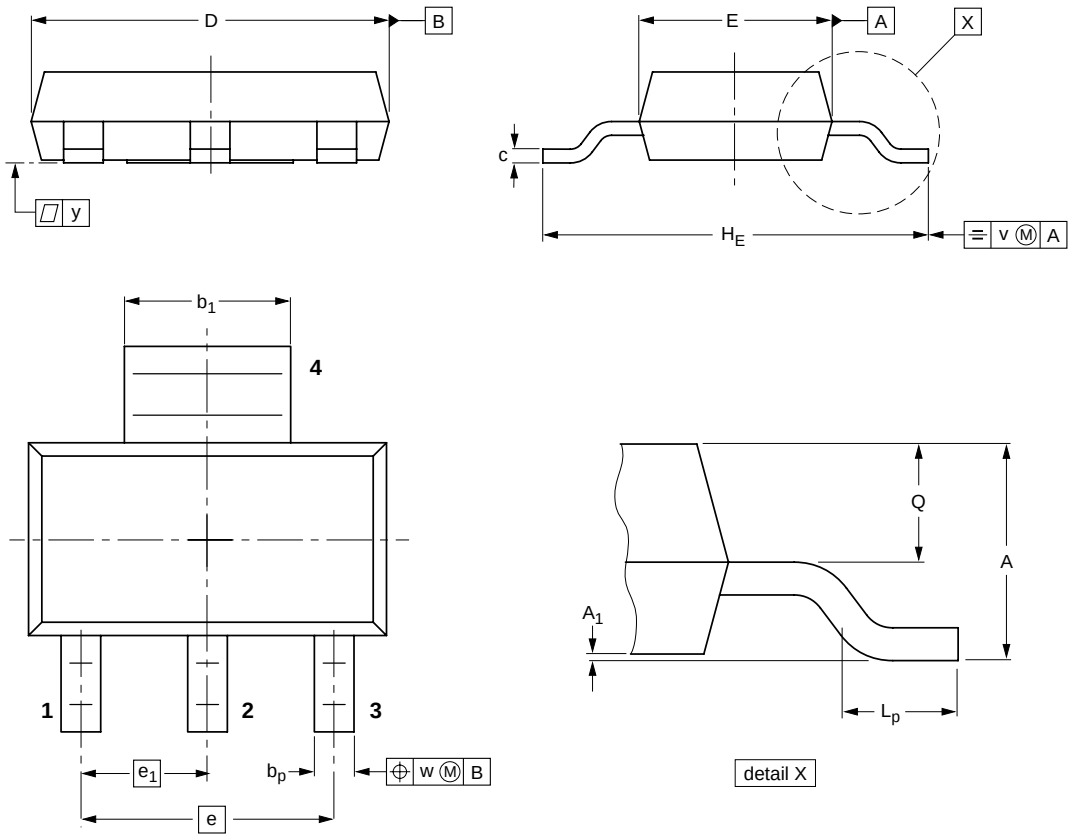
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CBO}	collector cut-off current	I_E = 0; V_{CB} = –30 V	–	–	–100	nA
		I_E = 0; V_{CB} = –30 V; T_j = 150 °C	–	–	–50	µA
I_{EBO}	emitter cut-off current	I_C = 0; V_{EB} = –5 V	–	–	–100	nA
h_{FE}	DC current gain	V_{CE} = –2 V;				
		I_C = –500 mA	250	350	–	
		I_C = –1 A; note 1	200	300	–	
		I_C = –2 A; note 1	–	225	–	
		I_C = –5 A; note 1	50	100	–	
V_{CEsat}	collector-emitter saturation voltage	I_C = –500 mA; I_B = –5 mA	–	–85	–130	mV
		I_C = –1 A; I_B = –10 mA	–	–130	–180	mV
		I_C = –2 A; I_B = –200 mA	–	–150	–210	mV
		I_C = –5 A; I_B = –500 mA	–	340	460	mV
V_{BEsat}	base-emitter saturation voltage	I_C = –5 A; I_B = –500 mA	–	–	–1.3	V
V_{BEon}	base-emitter turn-on voltage	V_{CE} = –2 V; I_C = –2 A	–1.25	–0.81	–	V
C_c	collector capacitance	I_E = i_e = 0; V_{CB} = –10 V; f = 1 MHz	–	92	105	pF
f_T	transition frequency	I_C = –500 mA; V_{CE} = –5 V; f = 100 MHz	50	100	–	MHz

Note

1. Pulse test: $t_p \leq 300$ µs; $\delta \leq 0.02$.

PACKAGE OUTLINE

Plastic surface mounted package; collector pad for good heat transfer; 4 leads **SOT223**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1	b_p	b_1	c	D	E	e	e_1	H_E	L_p	Q	v	w	y
mm	1.8 1.5	0.10 0.01	0.80 0.60	3.1 2.9	0.32 0.22	6.7 6.3	3.7 3.3	4.6	2.3	7.3 6.7	1.1 0.7	0.95 0.85	0.2	0.1	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT223						~~96-11-11~~ 97-02-28

DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

NOTES

NOTES

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